Bluetooth®

FC CE

ROHS Compliance

Ultra Low Power GPS Bluetooth® Receiver with Speed Camera Detector Functionality

User's Manual

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1. Read Me First

1. The battery must be charged for at least 8 hours for the 'INITIAL' use. The LED2 (GREEN) will turn off after 3 hours' charging, please keep on charging for 5 more hours. Thereafter, for each time's battery charging please fully charge for 3 hours.
2. We strongly recommend that remove the battery if the device will not be used for over 2 weeks. Do not remove the battery within 2 weeks.
3. For fast data tracking purpose staying still before get fixed is recommended. (FIX then GOES!!)
4. Please note that the device will only receive the signal under the open sky. In this case, putting the device under the windshield is recommended.

2. Introduction

The Bluetooth GPS receiver, a total solution of GPS Bluetooth wireless technology, is dedicated design for the user who is usually carries the portable device such as PDAs/smart phones all the time.

It allows 22 hours continuous use with a single battery charge. It uses GPS technology to provide accurate warnings to fixed and mobile speed cameras in the road ahead. The unit also including some nice features, such as vibration sensor for power management and POI update, which are the unique benefits to the users.

Not only transmit satellite information to the PDA or smart phone via Bluetooth but also become a G-Mouse GPS receiver through a data cable to deliver satellite information to the device without Bluetooth interface.

3. Box Contents

1. GPS Bluetooth Receiver
2. Lithium-ion rechargeable battery
3. Car charger
4. AC adapter
5. CD (Documentation)
6. Anti-slip rubber pad

BT GPS Receiver

AC Adaptor

Car Charger

Li-ion rechargeable Battery

CD (Documentation)

Anti-Slip Rubber Pad

4. Hardware Description

Speaker

LED 2:
Power Status

LED 1:
GPS Fixed Status

LED 3:
Bluetooth Status

1. Volume up
2. Add data

Power button

1. Volume down
2. Erase data

External antenna connector

Slip-resistant

LED alarm

1. Charge socket
2. USB G-mouse socket

5. LED Indicator

Power on:

LED1: GPS Fix Status	LED2: Power Status	LED3: Bluetooth Status
Red (OFF) GPS not fixed yet!	**Green (ON)** Blinking for every 1 second	**Blue (ON)** Blinking very quickly (in paring mode)

GPS get fixed/Bluetooth connected:

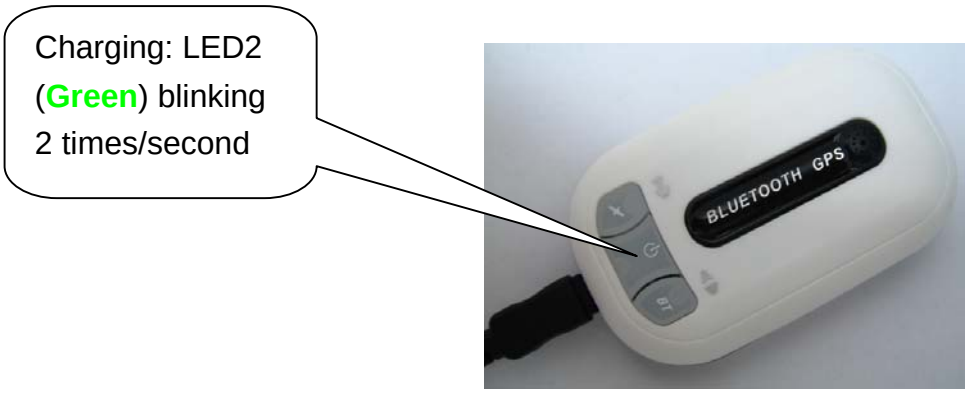
LED1: GPS Fix Status	LED2: Power Status	LED3: Bluetooth Status
Red (ON) Blinking for approx. 1 second	**Green (ON)** Blinking for every 1 second	**Blue (ON)** Blinking for approx. 1 second

Low battery: Notified by voice "battery low" when low battery; notified by "beep" sound and go to sleep mode if battery is too low to support operation

Charging: LED2 (GREEN) blinking 2 times/second

Battery is fully charged: 1. LED2 (GREEN) turns off if charged by AC adaptor. 2. LED2 (GREEN) blinking for every 1 second if charged by car charger

BT GPS Receiver will automatically turns on if powered by AC adaptor



GPS Bluetooth operates on OS with Bluetooth function that supports SPP

In order to avoid any unexpected problem,
DO NOT attempt to change the default baudrate

6. Connecting to your Bluetooth PDA

1. Turn on the BT GPS Receiver

Press power button for 1 second, the LED2 (Power Status LED) and LED3 (Bluetooth Status) start blinking.

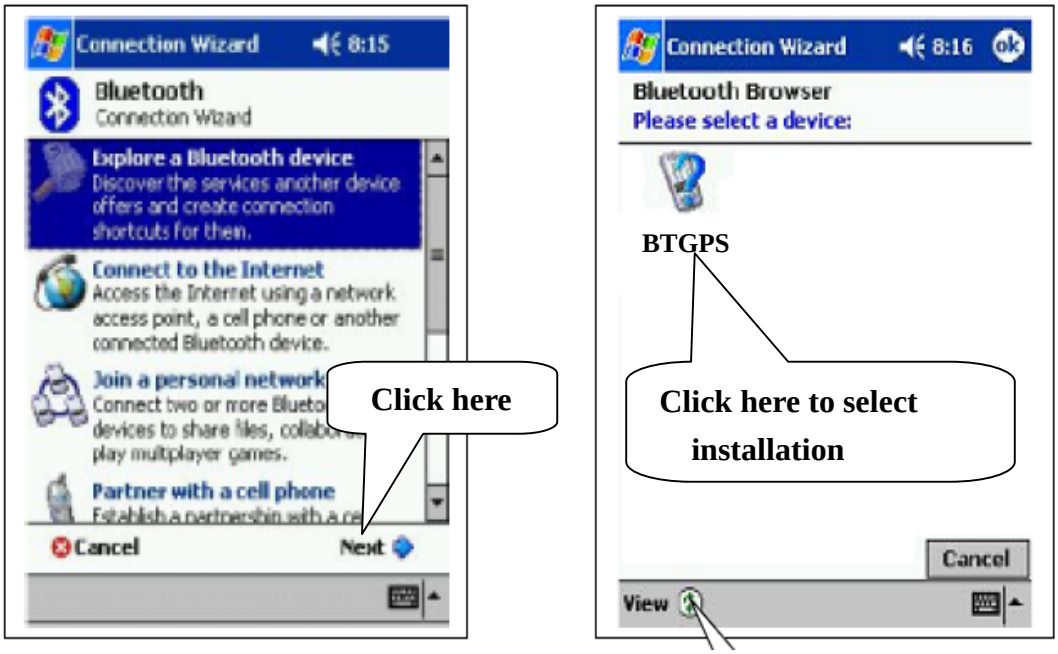
2. Activate Bluetooth function of your PDA / smart phone

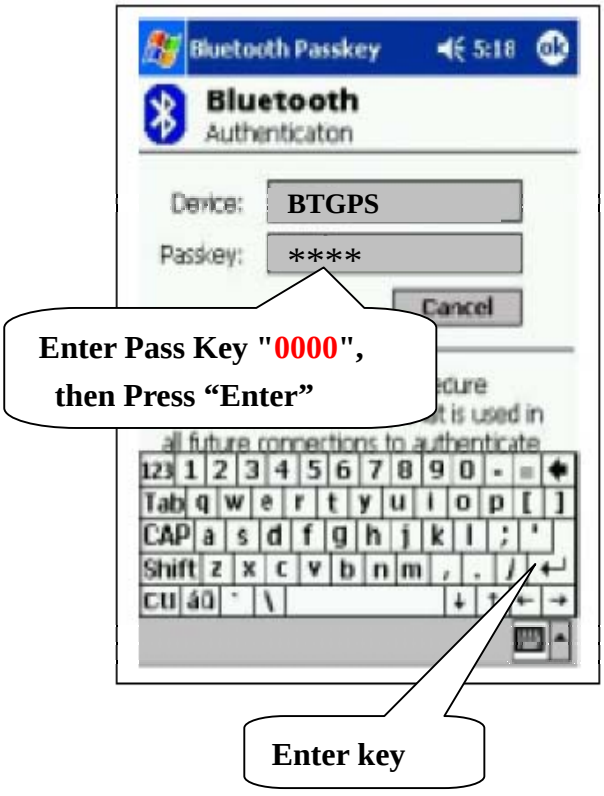
Prior to activating the Bluetooth function of your PDA / smart phone, please make sure the device is equipped with Bluetooth function, and the driver software has been installed.

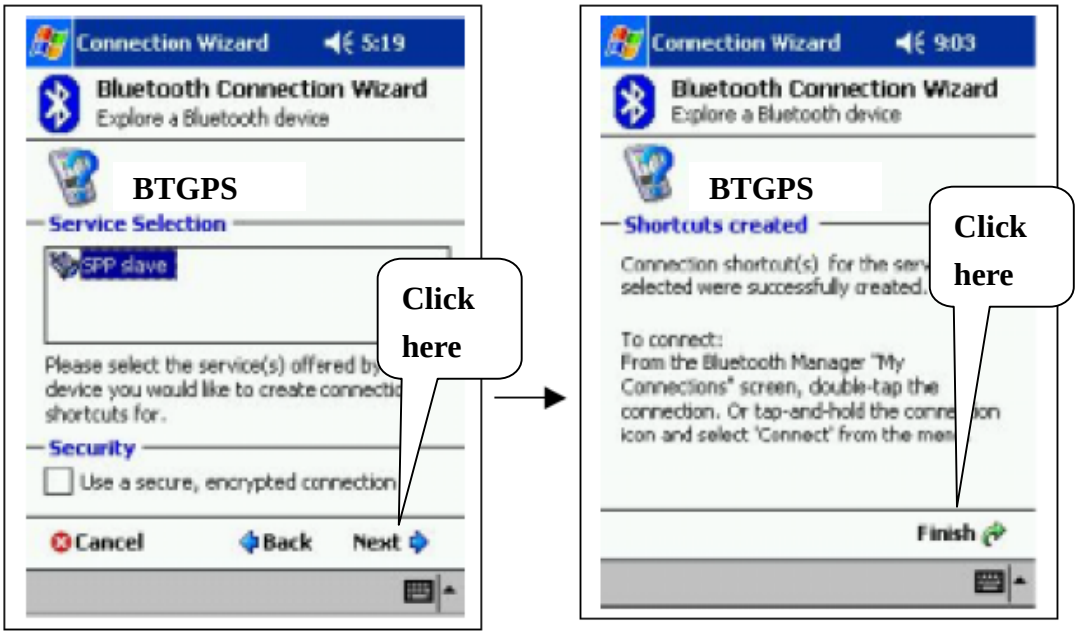
3. Activate Bluetooth Manager & Established New Connections

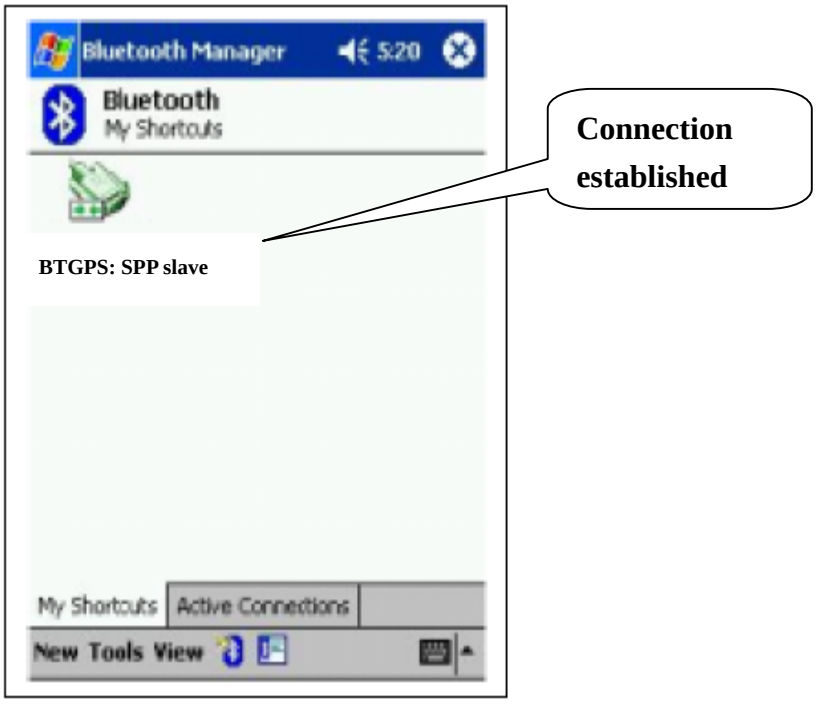
Illustrations by using HP 2100 PDA shown as follows:

I. First, find the device with which you wish to establish connection.
II. Open "Bluetooth Manager" on your PDA.
III. Press "New".
IV. Press "Connect".


Connection Wizard 8:15
Bluetooth
Connection Wizard
Explore a Bluetooth device
Discover the services another device offers and create connection shortcuts for them.
Connect to the Internet
Access the Internet using a network access point, a cell phone or another connected Bluetooth device.
Join a personal network
Partner with a cell phone
Cancel
Next
Click here
Connection Wizard 8:16
Bluetooth Browser
Please select a device:
BTGPS
Click here to select installation
Cancel
View


Bluetooth Passkey 5:18
Bluetooth
Authenticaton
Device: BTGPS
Passkey: ****
Cancel
Enter Pass Key "0000", then Press "Enter"
Enter key





The connection between BT GPS Receiver and PDA has been successfully established

4. Turn off the BT GPS Receiver

Press power button for 1 seconds, LED goes off.

We strongly recommend that close the E-map before turning off the BT GPS Receiver, in order to avoid any possible PDA /Smart phone freeze

7. Working Modes

Mode A: GPS + Bluetooth + Speed Camera Detector

1. Power on BT GPS Receiver by pressing power button for 1 second
2. "Bluetooth On" by voice alarm
3. Bluetooth status LED (**LED3: BLUE**) blinking quickly
4. Connecting BT GPS Receiver to your Bluetooth PDA (please refer to 6: connecting to your Bluetooth PDA)
5. GPS status LED (**LED1: RED**) blinking when GPS get fixed (with voice alarm)

Speed Camera Voice Reminder

1. Notified by voice "GPS positioned" after GPS get fixed
2. Notified by voice alarm if speed camera is nearby (BT GPS Receiver will automatically comparing the current position with the database)
3. Voice alarm can be set under certain distance, for instance, 500 meters, 300 meters, 200 meters, 100 meters (or equivalent miles, please refer to remark A)
   a. 500 meters (or equivalent miles)
      (a.1) Notified by voice "500 meters (or XXX miles) ahead, a fix (or mobile, please refer to remark B) camera"
      (a.2) LED alarm blinking slowly in turn
      (a.3) LED alarm blinking quickly if over speed (please refer to remark C)

   b. 300 meters (or equivalent miles)
      (b.1) Notified by voice "300 meters (or XXX miles) ahead, a fix (or mobile) camera"
      (b.2) LED alarm blinking quickly in turn
      (b.3) Noticed by voice "slow your speed" and LED alarm blinking quickly if over speed

   c. 200 meters (or equivalent miles)
      (c.1) Noticed by "beep" sound
      (c.2) LED alarm blinking quickly in turn
      (c.3) Noticed by voice "slow your speed" and LED alarm blinking quickly if over speed

   d. 100 meters (or equivalent miles)
      (d.1) Noticed by "beep" "beep" sound
      (d.2) LED alarm blinking quickly in turn
      (d.3) Noticed by voice "slow your speed" and LED alarm blinking quickly if over speed

Remark:

A. All GPS x,y graphic, speed camera database, and distance setting can be provided by request
B. Two types of camera: fix and mobile, depending on database setting
C. Over speed alarm: depending on database setting, there's "no" over speed warning if the camera speed has not been recorded in the database

Mode B: GPS + Speed Camera Detector (Bluetooth Off)

1. Power on BT GPS Receiver by pressing power button for 1 second
2. Switch Bluetooth off by pressing power button for 1 second (please refer to remark D)
3. "Bluetooth Off" by voice alarm
4. Bluetooth status LED off
5. GPS status LED (**LED1: RED**) blinking when GPS get fixed (with voice alarm)

Remark:

D. Bluetooth can be turned on anytime by pressing power button for 1 second, user will heard "Bluetooth On" by voice alarm

Speed Camera Voice Reminder

Speed camera detector can be working without Bluetooth, please see previous page for operational setting

Mode C: G-Mouse + Speed Camera Detector (Bluetooth Off)

The BT GPS Receiver can be used as a G-mouse by simply connecting to laptop PC via USB cable

1. Connecting BT GPS Receiver to laptop PC via USB cable, (USB to mini USB cable) please make sure that the Bluetooth is off
2. Please install USB driver (in document CD) to your laptop PC
3. COM port set-up: start – control panel – system – hardware – device manager – ports (COM&LPT)
4. GPS status can be read by running GPS software (i.e. Visual GPS)
5. Speed camera detector can be working under G-mouse mode, please see previous page for operational setting

8. Volume control/Database update

a. Volume up/Add data

(a.1) Volume up: press shortly the “volume up” button (notified by “beep” sound)
(a.2) Add data: press “volume up” button for 3 seconds

b. Volume down/Erase data
(b.1) Volume down: press shortly the “volume down” button (notified by “beep” sound)
(b.2) Erase data: press “volume down” button for 3 seconds

Remark:

A. Add/Erase data has to be made under GPS positioned status
B. User can edit database via dedicated software (User_DB_modify.exe, please refer to appendix A) in document CD
C. Notified by voice “data add complete”/”data delete complete” if add/erase is completed
D. Notified by voice “data add failed” if BT GPS Receiver is not under positioned status
E. Notified by voice “data delete failed” if database is empty

9. Auto Power ON/OFF function

The BT GPS Receiver equipped with vibration sensor for power management (auto power on or goes to sleep mode)

a. Auto power on/off function is available under all working modes except G-mouse mode
b. Goes to sleep mode if vehicle stays still for 15 minutes
c. Auto power on in 3 sec. when detecting vibration (back to previous working mode)

10. Specification

GPS Features

Chipset	NEMERIX low power chipset
Frequency	L1, 1575.42MHz
C/A Code	1.023MHz chip rate
Channels	Supports 16 channels
Antenna (Internal)	Built-in low noise patch antenna
	External MMCX antenna port

Sensitivity

To – 152dBm Tracking, Superior Urban Canyon Performance

Time to First Fix (TTFF)

Cold Start	45 sec, average
Warm Start	38 sec, average
Hot Start	6 sec, average
Reacquisition	1 sec
Update Rate	1 Hz (max.)

Accuracy

Position	5m CEP (50%); 9m (90%)
Velocity	0.1m/sec, without SA
Time	±100ns synchronized to GPS time

Power

Built-in rechargeable 1100mAh Li-ion battery and 5V DC input

Operation Current	45mA (Typical)
Operation Time	22hrs, fully charged, in continuous mode
Sleeping Mode	Sustain more than 2000 hours
Charging Time	3.0hrs. (Typical)

Environmental Characteristics

Operating Temperature	- 20°C to + 60°C
Storage Temperature	- 20°C to + 85°C

Datum

WGS-84

Dynamic Conditions

Altitude	<18,000 m (60,000feet)
Velocity	<515 m/s (1000 knots)
Acceleration	<4G
Motional Jerk	20m/sec^3 max.

Interface

Communication Protocol: Communicate with host platform via Bluetooth (class 2) serial port profile

Bluetooth communication distance 10meters (Typical)

GPS Protocol: Default: NMEA-0183 - GGA, GSA, GSV, RMC

Data bit: 8, stop bit: 1(Default)

Device Size and Weight

77.4 (L) X 46.3 (W) X 22.5 (H) mm

3.05 (L) X 1.82 (W) X 0.89 (H) inch

68g (battery included)

Accessories

Car charger (12V in, 5V output)

AC adaptor (5.3V output, 500mA)

Camera Detector

Number of POI: factory default 180,000; my favorite point: 256

Goes to sleep mode if vehicle stays still for 15 minutes

Auto power on in 3 sec. when detecting vibration

Speaker: 1 watt/ 8 ohm

11. Revision History

Revision	Date	Comments
V6.06	26_June_2006	First release

12. Appendix A

User Database Utility

a. The software supports Windows XP
b. Support WGS84 Longitude /Latitude input

Step1: Please use under G-Mouse mode
Step2: Execute “User_DB_Modify.exe”
Step3: Choose COM port and choose “Open COM Port” button to open COM port
Step4: Choose “Load user database from device” button to load user database
Step5: Choose “Read next page” or “Read previous page” to read more data
Step6: if you had modified data on one page, choose “Save this page” button to save page
Step7: If the update has been completed, please choose “Exit and write to Device” button to update flash and exit application software
Step8: If you are not willing to update your database, please choose “Exit” button to exit application software
Step9: Disconnect, the device will automatically into suspend mode

Note:

Speed :

Unit = kilometer or mile
Speed : 0 ~ 999
or
Speed : NULL (don’t have over speed alarm)

Direction :

Camera Direction : 0 ~ 359
or
Camera Direction : NULL (not direction Camera)

Type : 0 = fixed Camera
1 = mobile Camera

13. Appendix B

How to update database

a. Database can be updated under G-Mouse (USB GPS) mode
b. Please contact your distributor/agent for more information (software and database etc.)